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# Veterinary Viewpoints

Edited by Amy Worell, DVM, ABVP
Woodland Hills. CA

Question: My Orange-winged Amazon has chronic respiratory problems. He does well, except when he gets upset, I can hear that he is congested. He does not sneeze and feels fine otherwise. My veterinarian has done a lot of tests on him, and she thinks he might have Aspergillosis, but is not sure. He is currently on a medication called Diflucon. What tests need to be done to know for sure that he does or does not have this disease? She has already X-rayed him, done some blood tests, but she can't say for sure that is what he has. I'm confused. Please help.

R. Fisher, Texas

Answer #1: Aspergillosis has always been a diagnostic quandary. Titers, the measured level of antibodies against the mold that causes this disease, might help to confirm the presence of an active case of Aspergillosis. Two samples would be needed taken three weeks apart. If there was a significant rise in the titer between the first and second samples, it would further support the diagnosis.

James M. Harris, DVM Oakland, CA

Answer #2: It is difficult to determine from your description whether your bird has upper or lower respiratory tract congestion. An upper respiratory tract problem involves the sinuses and choana. A lower respiratory tract problem would involve the trachea, syrinx, lungs, and air sacs. Lower respiratory tract disease is usually more serious than upper respiratory tract problems. Aspergillosis infection can occur in either location. Also, you may not be dealing with Aspergillosis but another disease process.

Disease conditions leading to upper or lower respiratory problems would include: bacterial infection such as Pseudomonas; fungal infection such as Aspergillosis; viral infection such as Pox; tumors; metabolic/nutritional difficulties such as hypovitaminosis A; and traumatic problems such as aspiration of food or a seed husk lodged in the trachea or even fracture of the hyoid bone.

It is important to localize the origin or the congested sound. If the sound comes from the nostril area then it is most likely upper respiratory. Also, upper respiratory problems may be accompanied by nasal discharge. If the sound comes from the lower tract then it is usually accompanied by openmouthed breathing and an audible "hack" or "honk." Both tracts may be affected simultaneously. Wheezing or wet/gurgling sounds from the lower tract are especially serious.

Aspergillosis infections are very difficult to diagnose. Blood tests are not very reliable but an increased monocyte count (a type of white blood cell) "suggests" a chronic infection which includes Aspergillosis. Serum antibody tests, although commercially available, have not proven to be very diagnostic.

If your vet can localize the sound, then the task may be easier. Lower tract infection may be diagnosed by wash/cytology; tracheal tracheal endoscopy; or endoscopy of the air sacs and lungs with culture and/or biopsy. Naturally, there is some degree of risk involved with these diagnostic procedures since the bird would have to be anesthetized. Upper tract infection may require opening the sinuses. A sinus wash with cytology may help but culture of the sinuses may not be diagnostic since Aspergillosis spores are everywhere.

Therefore, we would need more information including physical observations and clinical data to provide you with the best advice.

Darrel Styles, DVM Dripping Springs, Texas

Answer #3: Aspergillosis can be very difficult to diagnose, particularly if it is localized (i.e.,: nodules in the trachea or syrinx). Small fiber optic scopes are sometimes used to examine both upper and lower portions of the respiratory tract. Another relatively new approach is to use a blood test that can make a specific diagnosis. This test was originally developed for use in raptors, but has been tried in other species of birds. Ask your veterinarian to contact the Raptor Center at the veterinary school in Minneapolis, MN for more information.

Blood can also be drawn for electrophoresis, if that has not already been done. Electrophoretic separation of blood proteins is sometimes useful in diagnosing aspergillosis, as a characteristic pattern or ratios is often seen in chronic cases.

Louise Bauck, DVM Montreal, Canada

**Answer #4:** Aspergillosis is a fungal infection that often is very difficult to identify in birds. Therefore, a "for certain" diagnosis is not always possible. In addition to clinical signs which may vary in different birds, physical examination findings, results of routine screening blood tests that include a complete blood count, protein electrophoresis findings, antibody and antigen blood tests for the fungus, xrays, cultures, and endoscopic examination, may all be needed to obtain a presumptive diagnosis or exact diagnosis of Aspergillosis. Additionally, response to anti-fungal medications can be used as a diagnostic test for a bird possibly having Aspergillosis. So, as you can see, the diagnosis is not easy or necessarily exact. Once a diagnosis is reached, medical treatment may involve several months of therapy to resolve the problem. Hopefully, this is helpful to you and your pet.

Amy B. Worell, DVM, ABVP-Avian

#### Louise Bauck, DVM

Dr. Bauck completed a postgraduate degree and residency in exotic pet medicine after completing her DVM at the University of Saskatchewan. She currently works as the Director of Veterinary Services for the Hagen Avicultural Research Institute, Dr. Bauck is on the review board for two international veterinary journals and has authored chapters in all

three current major avian texts. She has also written the new AAHA manual on avian medicine, and has authored the avian chapter in the current Merck manual. She is a consultant for the Pet Industry Joint Advisory Council in both the US and Canada. A frequent lecturer to both the pet industry and to the veterinary community, her current research interest is in diseases of the Lady Gouldian Finch.

#### James M. Harris, DVM

Dr. Harris, who is originally from England, started keeping birds at the early age of four. Dr. Harris is a graduate of the Michigan State University College of Veterinary Medicine. He started the Montclair Veterinary Clinic and Hospital in 1961, which is located in Oakland, California. He breeds macaws and finches, and is well known in the veterinary community for his interest and endeavors with the human-animal bond. Dr. Harris is the father of four children and the proud grandfather of four grandchildren.

#### Darrel K. Styles, DVM

Dr. Styles is a research veterinarian who has worked within the avicultural community for the past 10 years. He earned his DVM at North Carolina State University. His studies have taken him to work with noted research veterinarians and bird collection throughout

the country. His work experience includes such facilities as Avicultural Institute and Pet Farm, Inc., as well as the Avian and Exotic Bird Medicine Department at NC State University. He is currently an owner of Hill Country Aviaries in Dripping Springs, Texas. Dr. Styles is also attending classes at the University of Texas where he is working on his Masters Degree in Medicinal Chemistry.

#### Amy B. Worell, DVM, ABVP-Avian

Dr. Worell has a BS in Zoology from the University of Kentucky and a DVM from Auburn University. She is a diplomat of the American Board of Veterinary Practitioners, where she was among the first group of veterinarians to be certified as an avian specialist. She is the owner of All Pets Medical Centre, in West Hills, California. Dr. Worell is an avid aviculturist, raising cockatoos, pionus, Greys and Eclectus Parrots. In the past, Dr. Worell was the AFA State Coordinator Chairman and chairman of the AFA veterinary program.

She served as the Association of Avian Veterinarians Chairperson for both the research and client education committees for several years, as well as being on the board of directors. She is on the editorial staff of several major avian and exotic veterinary publications as well as a contributor to major avian textbooks. She is known internationally for her research on hemachromatosis in toucans.

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